

Appl. No. 10/550,344  
Reply Brief in Response to  
Examiner's Answer of 16 July 2009

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/550,344  
Applicant : VILLAIN et al.  
Filed : 9/22/2008  
Confirmation : 1254  
TC/A.U. : 3737  
Examiner : CWERN, Jonathan  
Atty. Docket : FR030033US

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On: 16 September 2009

By: 

Title: MEDICAL IMAGING SYSTEM AND A METHOD FOR SEGMENTING AN  
OBJECT OF INTEREST

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## REPLY BRIEF UNDER 37 CFR 41.41

Sir:

This is a Reply Brief in response to the Examiner's answer dated 16 July 2009  
in the subject application.

## RESTATEMENT OF GROUNDS OF REJECTION

Claims 1-10 stand rejected by the Examiner under 35 U.S.C. 102(b) over  
Demonceau (USP 6,389,310).

Claim 10 stands rejected by the Examiner under 35 U.S.C. 101.

Claim 9 stands rejected by the Examiner under 35 U.S.C. 112, second  
paragraph.

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# **REMARKS REGARDING EXAMINER'S ANSWER**

This Reply Brief addresses the Examiner's Answer with respect to the rejection of claims 1-10 under 35 U.S.C. 102(b) over Demonceau.

The Examiner continues to fail to identify which particular elements in Demonceau correspond to the particular claimed elements, and thus does not provide the applicants a clear opportunity to provide evidence of patentability. In particular, without specifically identifying which element in Demonceau corresponds to the claimed "segmented region of interest", it is impossible to ascertain which process in Demonceau is assumed to correspond to determining a sub-regions map within this segmented region of interest.

The Office action asserts that the 'new image' caused by Demonceau's watershed segmentation can be called the sub-region map. However, Demonceau's watershed segmentation is the process used to create the original segmented regions of interest. That is, the asserted 'new image' created by Demonceau's watershed segmentation can be said to correspond to the claimed "segmented region of interest", but it cannot *also* be said to correspond to the sub-region map *within* the segmented region of interest.

Alternatively stated, Demonceau's watershed segmentation can be said to correspond to the claimed "means for segmenting a region of interest... into a segmented region of interest", which leaves Demonceau lacking in the teaching of "means for determining a sub-regions map within said segmented region of interest". If, as the Examiner asserts, Demonceau's watershed segmentation corresponds to the means for determining a sub-regions map, the Examiner fails to identify an element in Demonceau corresponding to a means for segmenting a region of interest into a segmented region of interest.

The Board of Patent Appeals and Interferences has consistently upheld the principle that the burden of establishing a prima facie case resides with the Office, and to meet this burden, the Examiner must specifically identify where each of the claimed elements is found in the prior art:

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"there must be *no difference* between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. Scripps Clinic & Research Found. v. Genentech, Inc., 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991). To meet [the] burden of establishing a prima facie case of anticipation, the examiner must explain how the rejected claims are anticipated by pointing out where all of the specific limitations recited in the rejected claims are found in the prior art relied upon in the rejection." *Ex Parte Naoya Isoda*, Appeal No. 2005-2289, Application 10/064,508 (BPAI Opinion October 2005).

The applicant respectfully notes that it is the duty of the Examiner to specifically identify each and every element and limitation of a claim in the cited reference as per 37 CFR 1.104(c)(2) and MPEP 707, which explicitly state that "the *particular part* relied on must be designated" and "the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified."

The Examiner has failed to identify the particular parts in Demonceau that are relied upon for corresponding to *each* of the elements of the applicants' claims, and has failed to clearly articulate the rejection so that the applicant could have the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity. The Examiner's repeated references to bits and pieces of Demonceau, without specifically identifying a corresponding element in Demonceau to each claimed element only serves to obfuscate the fact that Demonceau's invention is not identical to the applicants' claimed invention, as required by MPEP 2131:

"A claim is anticipated only if *each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)... "The *identical invention* must be shown in as *complete detail* as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Because the Examiner has failed to identify where each and every claimed element can be found in Demonceau, the applicants respectfully maintain that the Examiner has failed to provide a prima facie case to support the rejection of claims 1-10 under 35 U.S.C. 102(b) over Demonceau.

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The Examiner also asserts that the claimed elements of "'correcting' and 'excluding' can be interpreted more broadly to include the very act of segmenting itself" (Examiner's Answer, page 7, lines 15-17). The applicants respectfully disagree with this assertion, and respectfully maintain that this assertion is inconsistent with accepted U.S. claim language interpretation. The applicants specifically claim a means for conducting the asserted "very act of segmenting", then claim a subsequent means for determining a sub-regions map based on the segmenting, then claim a correction means for correcting the segmented region that was created in the act of segmenting, based on the subsequently determined sub-regions map. A single step segmentation that may include correcting and excluding elements does not correspond to, and is not identical to, the claimed determination of a sub-regions map after creating the segmented region, and does not correspond to a subsequent correction of the segmented region based on the subsequently determined sub-regions map.

Further, the Examiner asserts that the distinction between a single step segmentation process and the applicants' multiple step segmentation is not recited in the claims. This assertion is incorrect. Claim 1 specifically recites segmenting a region of interest comprising an object of interest into a segmented region of interest, and subsequently determining a sub-regions map *within* the segmented region of interest.

The Examiner refers to multiple examples of segmentation in Démonceau, but the applicants respectfully note that each of these examples refer to creating an initial segmentation among different segmented regions of interest (AoD, Spl, VP, S, etc.). The Examiner fails to identify where Démonceau teaches subsequently defining sub-regions *within* any of these regions of interest, as taught and claimed by the applicants.

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### CONCLUSIONS

Because the Examiner has failed to identify each element in Demonceau corresponding to each of the applicants' claimed elements, and because the Examiner has failed to identify where Demonceau teaches segmenting a region of interest into a segmented region of interest and subsequently determining a sub-regions map *within* the segmented region of interest, the Applicant respectfully requests that the Examiner's rejection of claims 1-10 under 35 U.S.C. 102(b) be reversed by the Board, and the claims be allowed to pass to issue.

Respectfully submitted,



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